Agenda

SI indicator meeting 0900-1300, 10 November 2014

Ngordoto Mtn Lodge, Arusha, Tanzania

0900 – 0930 Jerry Glover – Introductions & Objectives of this ½ day event

* Overview of activities & partners leading up to this event
* Initial discussion of desired endpoint(s);
* Identification of temporal and spatial scales that we wish to cover; those we don’t wish to cover
* Discussion of indicator categories and specific indicators being used for various projects—are there a few common, standardized indicators that provide a starting point?
* Identify indicator/data gaps—which types of essential indicators are not being covered by major projects/initiatives.
* Discuss next steps, critical partners, final outputs
* Discuss agenda for Friday 1/2 day SI event
* AAAS Annual Meeting, 12 – 13 February 2015, San Jose, CA

0930 – 1000 Peter and others

* Overview of activities/events leading up to this
* Where is Africa RISING to date?

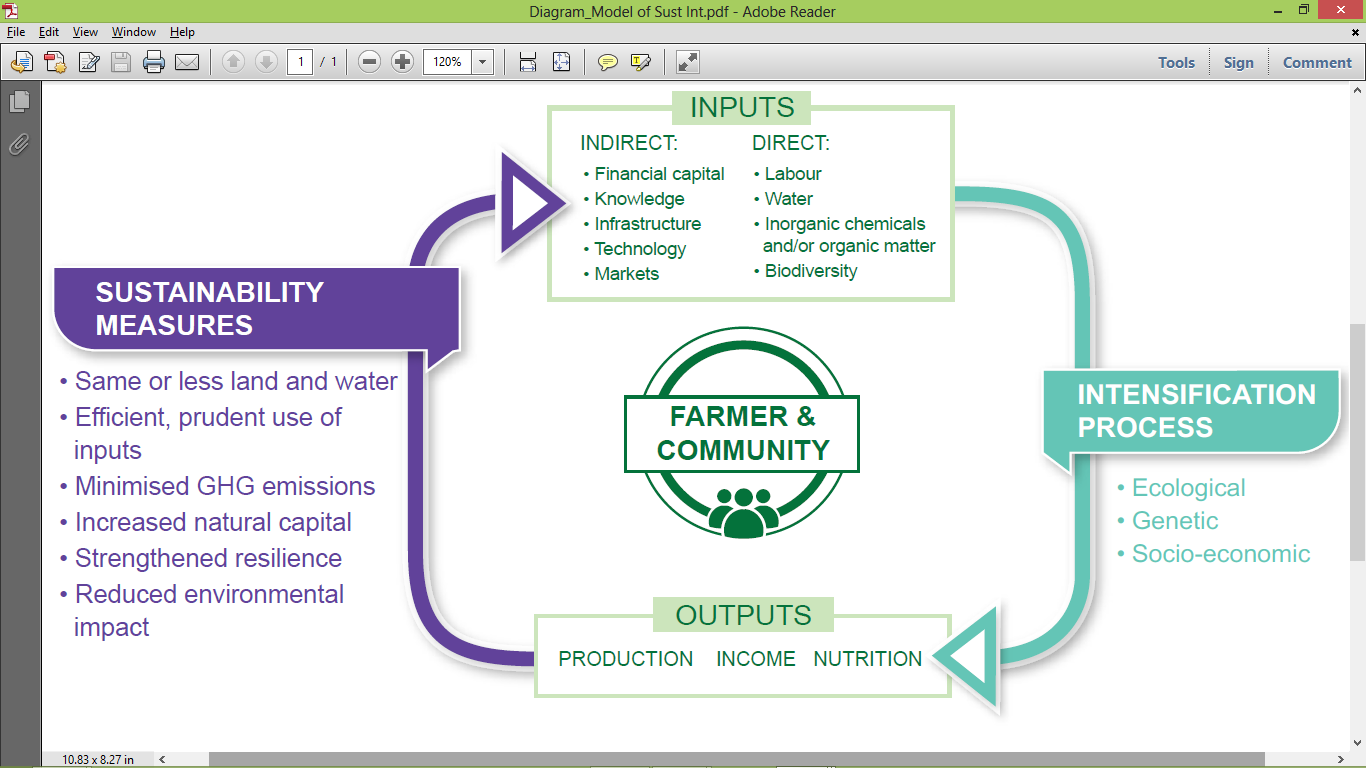
1000 – 1030 Gordon Conway – National level sustainability indicators

1030 – 1045 BREAK

1045 – 1115 Mark Musumba – Vital Signs overview

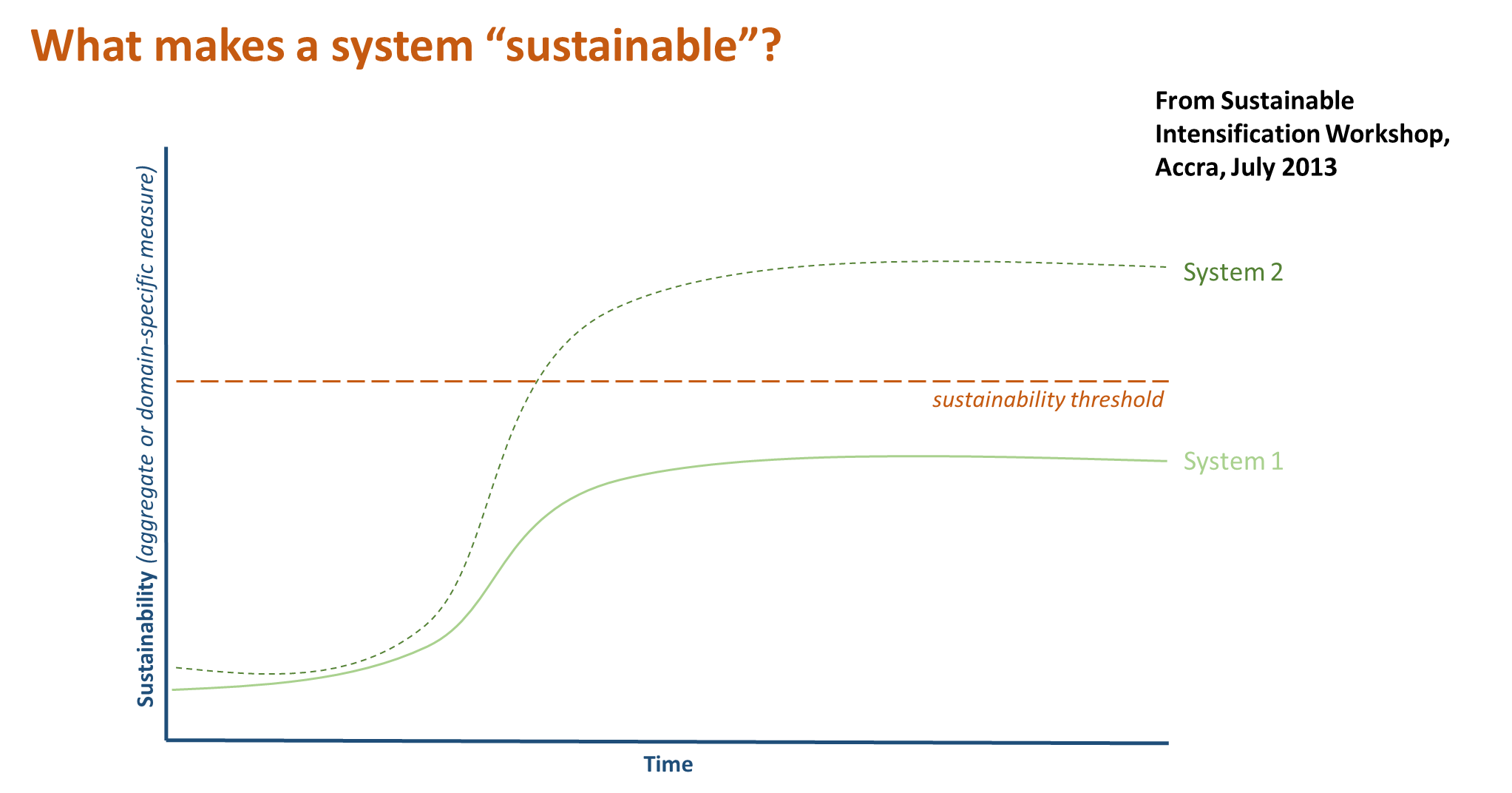
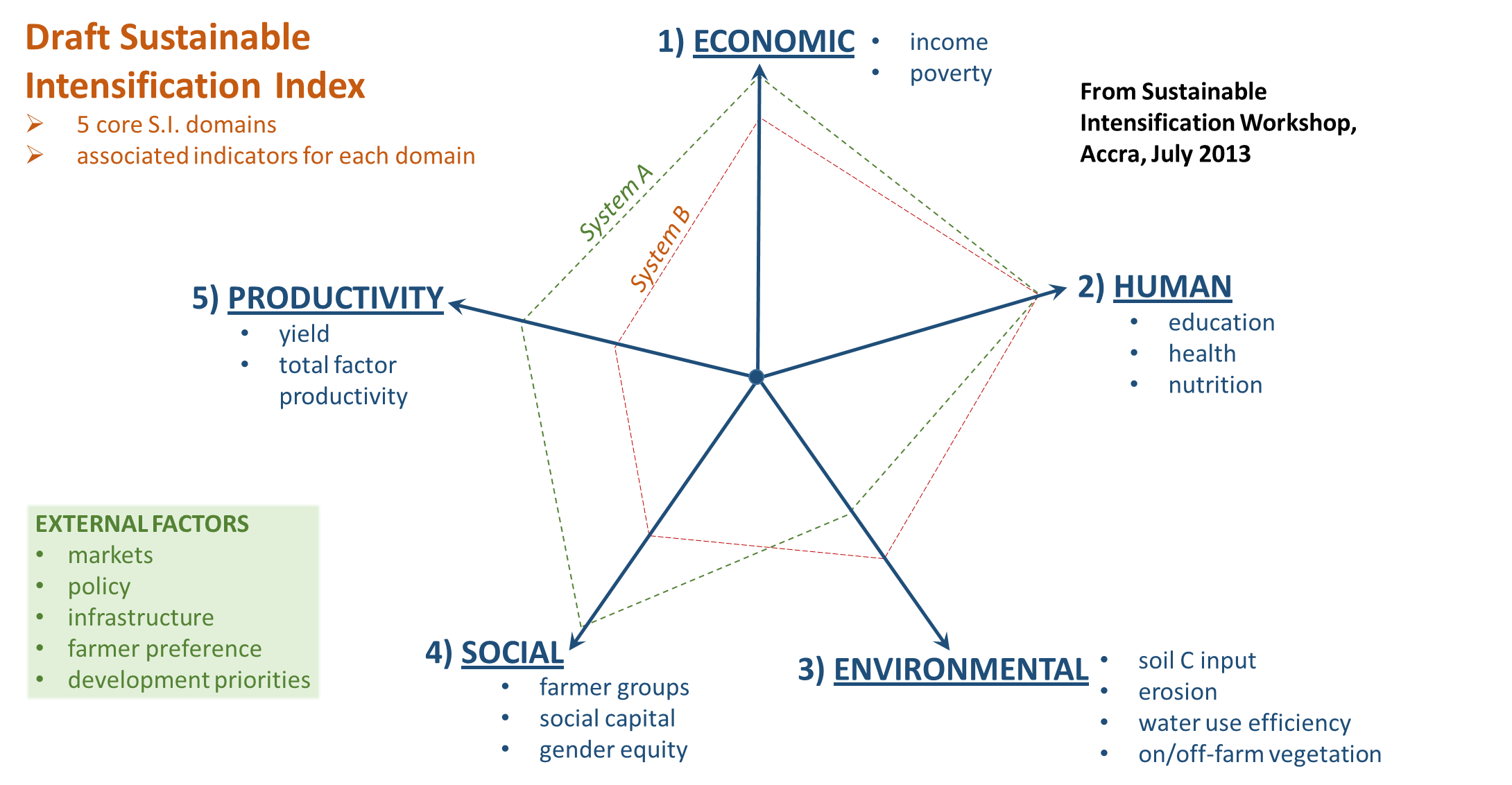
1115 – 1230 Overall framework outline—scales, categories of indicators, specific indicators

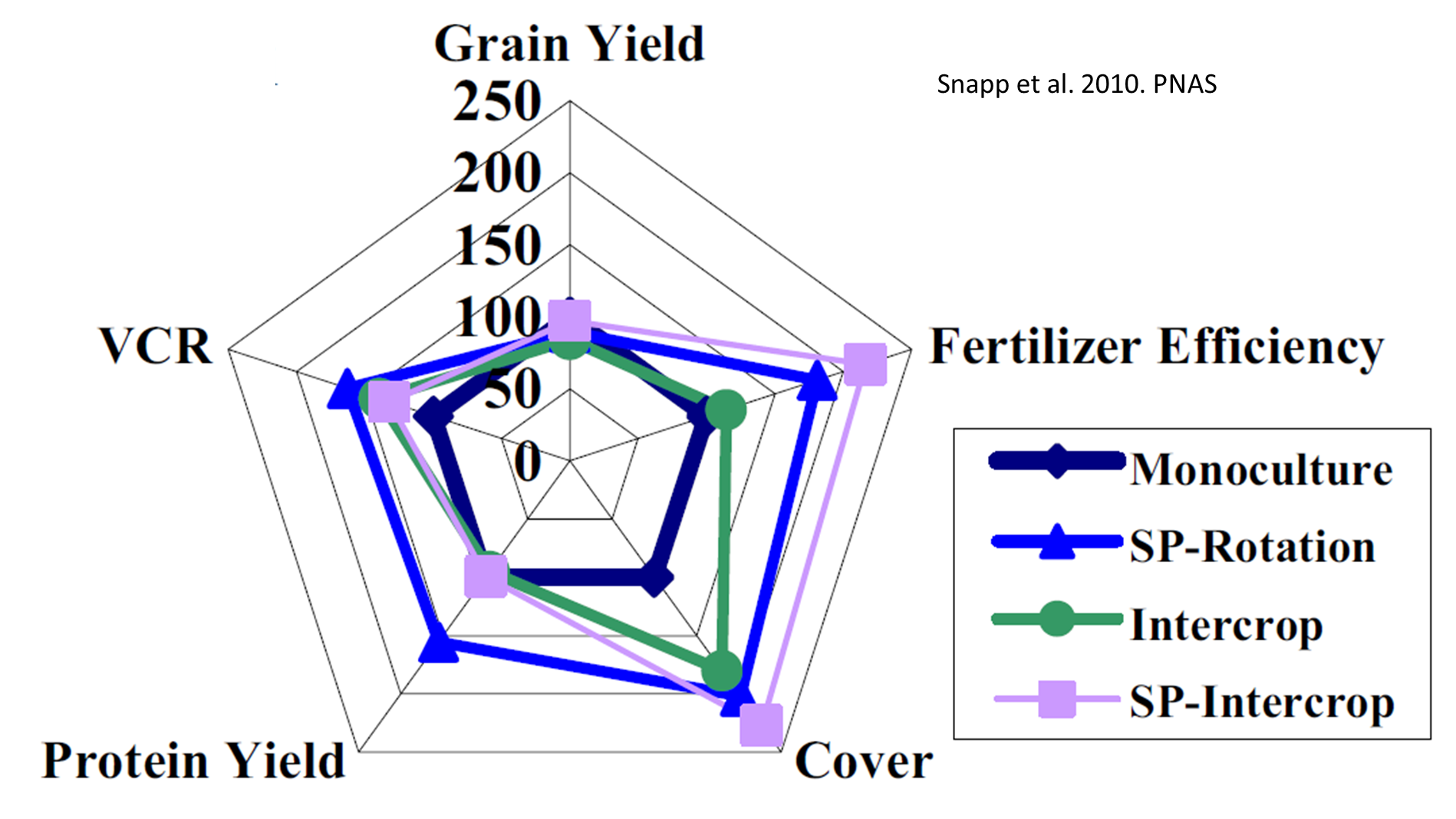
1230 – 1300 Gordon Conway: Big Picture endpoints—outputs; partners; trajectory/timeline; special journal issue

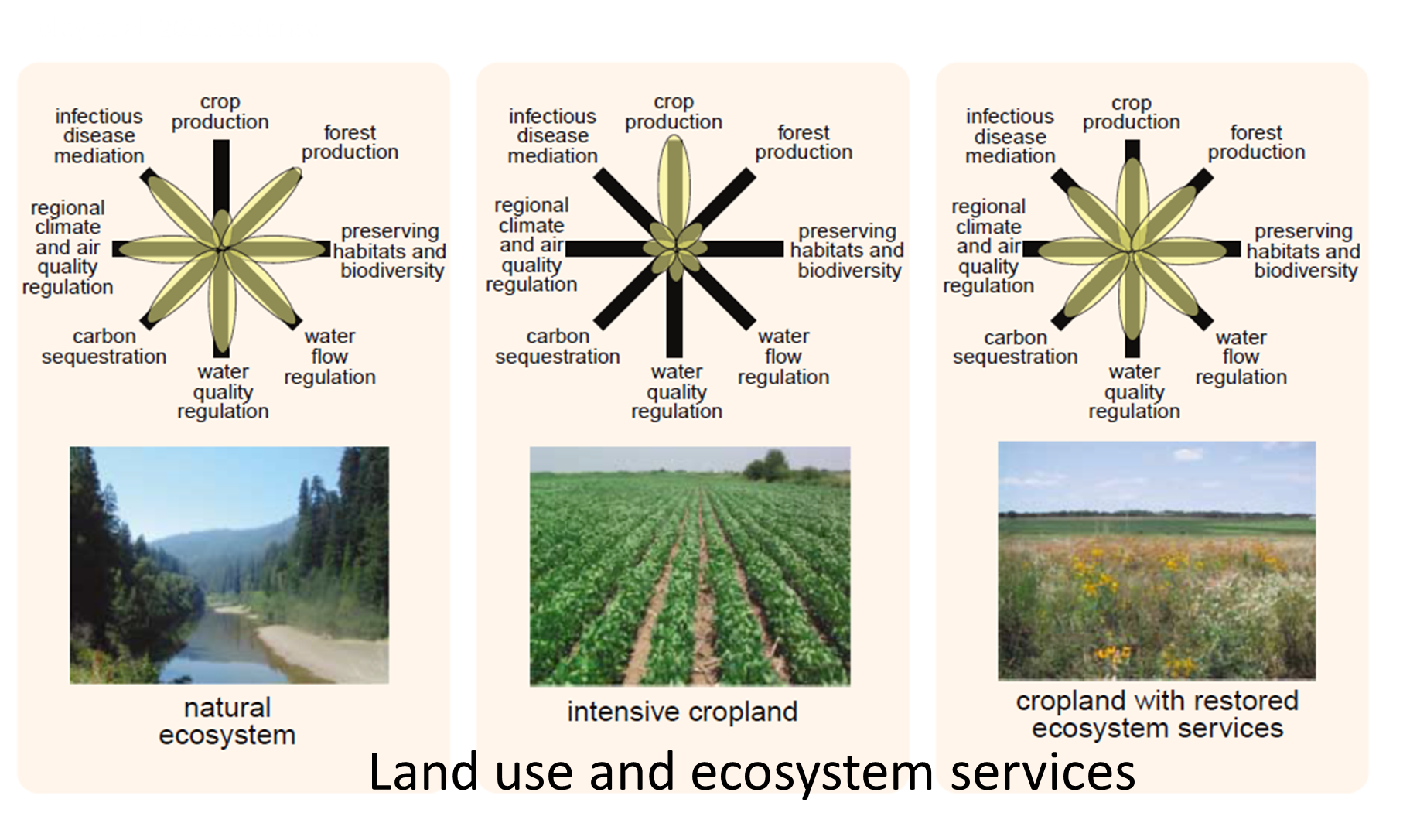


From Montpellier Panel Report 2013

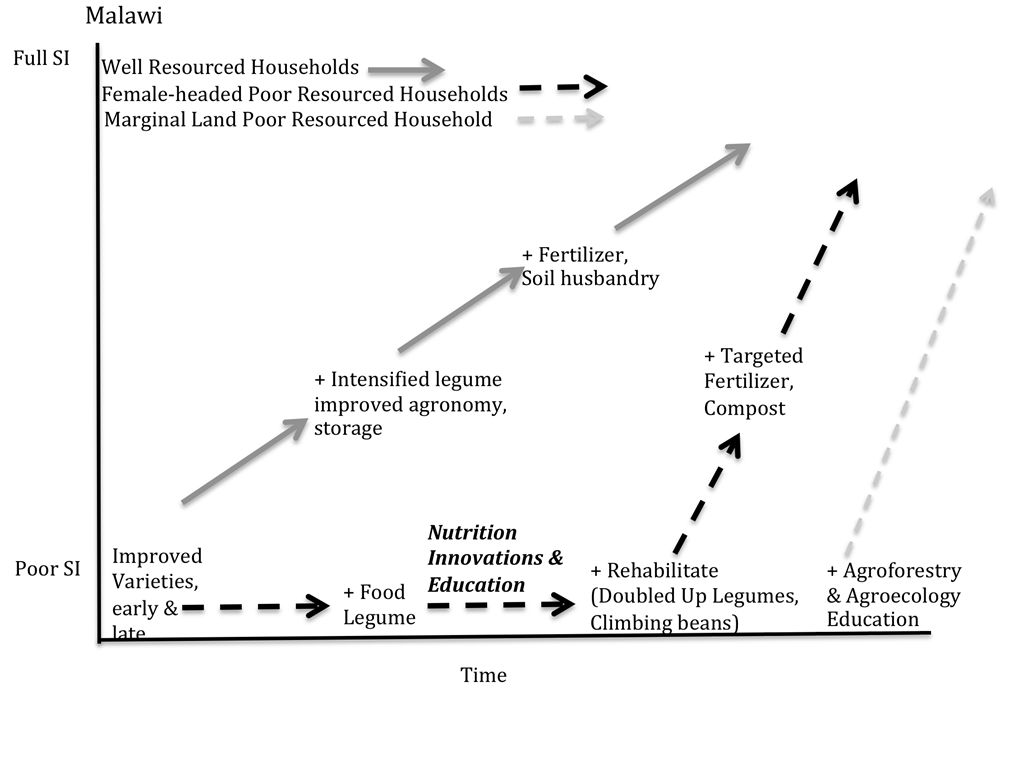
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| **Proposed sustainability indicators for monitoring impact of Africa RISING’s research-for-development interventions** | | | |
| Sustainability indicator | Spatial scale | | |
| Plot | Household | Community |
| 1. Crop and/or livestock product yield gap reduction and yield per season | x | x | x |
| 2. Crop and/or livestock product harvested per year | x | x | x |
| 3. Soil and/or erosion cycle | x | x |  |
| 4. Nutrient cycle – including carbon | x | x |  |
| 5. Water cycle | x | x |  |
| 6. Below and above-ground biodiversity | x | x |  |
| 7. Increase and efficiency of organic and mineral fertilizer use | x | x | x |
| 8. Dietary diversity |  | x |  |

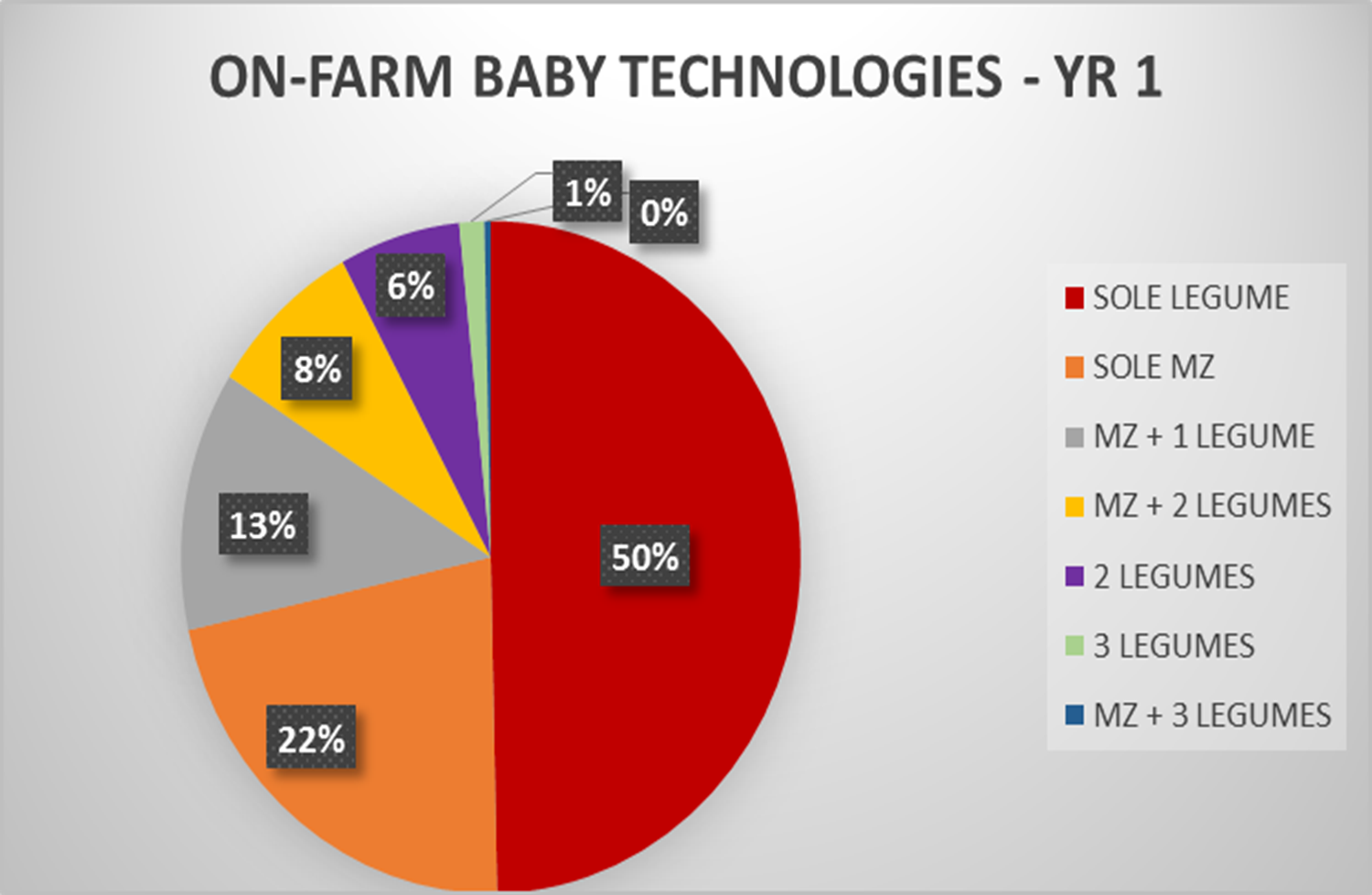






From Foley et al 2009(?)

Trajectories of sustainable intensification (SI) that we hypothesize are appropriate for different household typologies in Malawi, note that the poorest households with marginal lands will require more time, education and agroforestry innovations whereas the well resourced households can achieve SI relatively fast through improved varieties of food legumes and maize + links to input and output markets with education on soil husbandry. The inbetween group (a large one, including many female-headed) also takes time and education on nutrition to help support adoption of doubled up food legumes.



Example of documenting farmer innovations that were catalyzed through baby trials. The data are from a June 2014 survey of farmers collaborating with Malawi Africa RISING for two years (this figure reports on 390 baby trials from the first year of experimentation, about 500 baby trials were carried out in year two by the same farmers as about one-third of farmers expanded baby trials and carried out a rotation trial plus a second baby trial at another site in year two. By Erin Anders, new PhD student in my lab.

Sustainability Indicators

Gordon Conway

I have previously defined agricultural sustainability in terms of productivity, stability, resilience and equitability. There are important trade offs between these but a sustainable agriculture i.e. one that is durable – will last from generation opt generation – is generated when the trade-offs are minimised and all four measures are high.

This can be applied at all levels from the world, to nations to watersheds, villages and farms.

I would like to suggest the following indicators – some positive, some negative – as applied to a nation:

All can be measured as means and as distributions, and if possible by access

1. Food and nutrition security
   1. Grain staples per capita
   2. Grain legumes per capita
   3. Micronutrients per capita, male and female
   4. Children stunted
   5. Home grown school feeding programmes
   6. School children nutrition
2. Supply/ value chains
   1. Seed companies, per million ha
   2. Fertiliser companies
   3. Agrodealers
   4. Warehouses
   5. ?? markets
3. Risk and resilience
   1. % farmers insured
   2. adaptation programs ha
   3. post harvest losses
   4. water harvesting ha
   5. irrigated land ha
   6. GHG emissions (Methane, nitrous oxide) ha
   7. Pest, disease, weed losses per farm
4. Equity
   1. Farm income
   2. Household survey data
5. Environment
   1. Soil Organic Carbon (SOC) ha
   2. Soil moisture content ha
   3. Agroforestry systems ha
   4. Legume rotations or intercropped ha
   5. Annual soil cover ha
6. Socio-economic
   1. Farmer Associations per village
   2. Landrights – male and female
7. Political
   1. Adherence to CADAAP
   2. % budget on agriculture
8. Educational
   1. University agricultural students 1000km2
   2. Agricultural college students 1000km2